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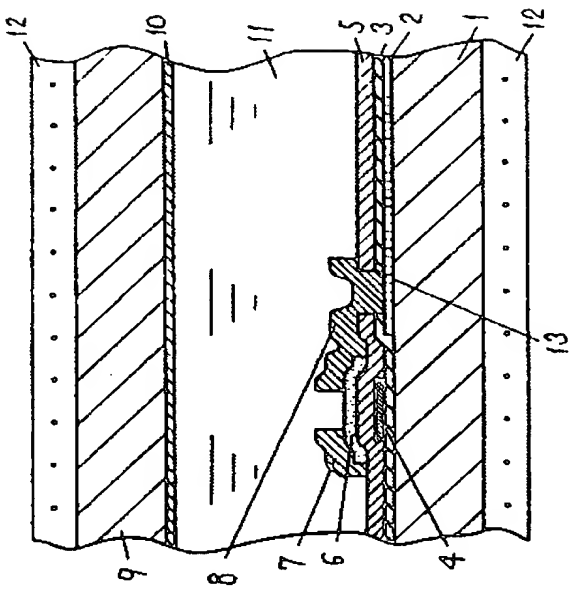
TITLE : MANUFACTURE OF SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To facilitate etching accurately following a photoresist pattern and improve yield of MIS transistors by a method wherein nitric acid which is diluted to the concentration of about 60 % or less by diluent such as water or acetic acid is employed as etchant for an amorphous Si layer.

CONSTITUTION: Etchant containing fluoric acid and nitric acid is diluted by diluent such as water or acetic acid so as to reduce the nitric acid concentration in the etchant to about 60 % or less. For instance, a transparent electrode 2 is selectively applied and formed on a glass board 1 with, for instance, ITO and then a silicon oxide layer 3 is formed over the whole surface as 1st transparent insulating layer. Then 1st metal layer 4 which serves as a gate electrode and also as a scanning signal line is applied and formed selectively with Cr. After that, a silicon nitride layer 5, which is 2nd transparent insulating layer, and an amorphous silicon layer which contains almost no impurity are formed by plasma CVD and a required photoresist pattern is formed by usual photolithography and etching is carried out with etchant whose composition is HF(46 % concentration):HNO_3(70 % concentration): H_2O= 1:80:20.